

Remarks

The following is a response to the Office Action dated February 27, 2003.

In the Office Action, the examiner has maintained her rejection of claims 1-2 and 5-7 under 35 U.S.C. 102(b) as being anticipated by Chiappetti U.S. patent 4,338,587, and her rejection of claims 3-4 under 35 U.S.C. 103(a) as being unpatentable over Chiappetti and Hasset et al. U.S. patent 5,406,275.

In order to more clearly define what is meant by "preceded by", each of claims 1 and 6 has been amended to now recite that the vehicle sensor is positioned at a location closer to the incoming vehicles than the antenna. Given that this Amendment is merely added to clarify the relative positions of the vehicle sensor and the antenna, and the issue indeed was addressed by the examiner in the Office Action, it is respectfully submitted that there has been no introduction of any new matter or new issue with this Amendment to claims 1 and 6. Accordingly, this Amendment is respectfully requested to be entered.

As for the 102(b) rejection of claims 1-2 and 5-7 under Chiappetti, it is respectfully submitted that Chiappetti does not anticipate claims 1 and 6 insofar as it is believed that the examiner has not taken into consideration the recitation of the last paragraph starting with "fourth means" in claim 1 and "processor means" in claim 6. More particularly, claim 1 recites that "in cases where the vehicle sensor detects a vehicle while the second means detects that a radio response to the radio signal is not received, judging that there is a non-ETC vehicle incoming", and claim 6 recites that the processor means decides that "a vehicle that has been detected by said vehicle sensor in said radio-communication zone is a non-ETC vehicle if no radio response to said radio signal is detected from said vehicle." Thus, for the instant invention, only if the vehicle sensor has detected a vehicle while the radio

response to the radio signal output from the antenna has not been received, would there be a determination that the incoming vehicle is a non-ETC vehicle.

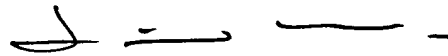
Contrast this with the Chiappetti system in which the stationary control unit 19, 20 sends out a request signal REQ to oncoming traffic. Only when a vehicle is equipped with a mobile vehicle sending unit 17, 18 would a response signal INFO be returned to the stationary control unit 19, 20. And cable switch 22, 24 extending across the respective lanes along the toll way would send a signal to the control unit that the vehicle identification information has not been properly recorded, if the vehicle is one that has not returned an INFO signal in response to the REQ signal from the control unit 19, 20. Thus, for the Chiappetti system, if a vehicle is able to return an INFO signal in response to a REQ signal from the control unit 19, 20, then it does not matter whether cable switch 22 detects the oncoming vehicle 12. However, only if no response INFO signal is received, and cable switch 22 then senses a vehicle, would the message "Stop Pay Toll" then be displayed. Thus, if a second vehicle closely follows the first vehicle and the first vehicle sends a response INFO signal to the control unit 19, then there is the real likelihood that the cable switch 22 of the Chiappetti system would not output any stop to pay toll message to the second vehicle. This is exactly the problem that the instant invention attempts to correct by requiring that two things happen at the same time, that being the vehicle sensor detects a vehicle while a radio response is not received.

As for the combination of Hasset U.S. patent 5,406,275 with Chiappetti for the rejection of claims 3 and 4 under 35 U.S.C. 103(c), it is respectfully submitted that the antennas used in the Hasset system are totally different from the antennas used in the Chiappetti system, insofar as the Hasset system requires antennas that output field patterns that overlap each other, with the relative strengths of the signals received from the various lanes' transmitting units being compared for determining

on which lane a vehicle is located, while the transmitting units in the Chiappetti system appear to transmit the signals unidirectionally, as evidenced by the way in which the stationary control units 19 and 20 are staggered along the respective lanes of the toll road so as to eliminate as much as possible any interference from one antenna to its adjacent neighbor antenna. This is further evidenced by the various components of the mobile vehicle sending units 17 and the control unit 19 as shown in Fig. 2, which are simple transmitter and receiving units.

In view of the foregoing, applicants respectfully submit that the instant invention is patentably distinguishable over the prior art. The examiner is therefore respectfully requested to enter this Amendment and reconsider the application.

Respectfully submitted,



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